THE BUSIEST ENDERS RAILROAD IN THE WORLD

In Culebra Cut Dirt Irains on Lack. Shell of the Cut

HE Panama Railroad has behind it a romantic history, but no less in-teresting is the wonderful record of achievement which it is now making. The original projectors of the linedaring Americans, who reaped little benefit from their enterprise—had no thought that it would become an indispensable auxiliary to the greatest physical under-taking the world has ever witnessed.

A railroad across the Isthmus of Panama began to be talked of shortly after the introduction of steam power, but it needed the atimulus of the discovery of gold in California to put life into the project. Thousands of the "forty-niners" made the journey to the Pacific Eldorado by way of the isthmus. They were carried by steamships to the mouth of the Chagres and rowed up that river to Las Cruces, whence the remainder of the journey to Panama was made on foot or on the backs of mules. This route was no more than 50 miles in length, but the absence of roads made it a difficult one, occupying as long as ten days. In the city of Panama, which was then far from a desirable place of sojourn, the travelers were often subjected to tiresome delays whilst waiting for vessels to take them up the coast to the alluring gold fields.

In the autumn of 1849, work upon the A railroad across the Isthmus of Pan-

Months tion of barc

> In the autumn of 1849, work upon the In the autumn of 1849, work upon the line was commenced by a force in the employ of William Henry Aspinwall, John Lloyd Stephens, Henry Chauncy and other New York capitalists, who had secured a concession from the government of New Granada. There was then no town where Colon now stands, and the engineering staff was compelled to make its headquarters on a sailing vessel.
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> (SThey worked by day, walst deep in mud

culties that met them at every step. The country was a howling wilderness, pestilential and death-dealing; the forests teemed with polsonous snakes and other unpleasant inhab itants; night was made hideous by the large, broad-chested, active mosquito of that part of the coast, who bites through clothing most

mostputto of that part of the coust, who bites through clothing most successfully; the country produced absolutely nothing, and every mouthful of food had to come from New York. Despite these obstacles, that brave little band worked ahead, and kept on their surveys.

Their first and greatest difficulty was to run the line through the famous "Black Swamp," which lies between Colon and Gatun. In places they failed to find bottom at 200 feet. Indeed, after throwing in tons of wood and rock, they began to fear that there was no bottom to the fearful quagmire. But they persevered, and at last contrived a road bed, but a very precarious one. Many times since then it has sunk in and only within the last few months 150 feet of track with some rolling stock upon it fell through and entirely disappeared within a few hours.

Notwithstanding the ample resources of the company and the determined energy of its force in the field, no more than one-half of the permanent way—the 23 miles between Colon and Barbacoas—was completed and single-tracked at the 22 miles between Colon and Barbacoas—was completed and single-tracked at the end of two years. Passengers were car
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23 miles between Colon and Barbacoas—
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end of two years. Passengers were carried, however, as far as the railroad went
and an appreciable facility was thus
given to the journey across the isthmus.
Some idea of the difficulties encountered
along this short stretch of line way he some idea of the dimentiles encountered along this short stretch of line may be gathered from the fact that no fewer than 300 colverts, drains and bridges had to be provided along the 50-mile course of the road. On the 27th day of January, 1835, Colonel Totten, the chief engineer of the company, went over the finished line on the first locomotive to cross the American continent from ocean

Spreader at Work Corozal Dump

well justified the expenditure. For 50 years it has been an important factor in transcontinental commerce. It opened up the country and stimulated the desire for a waterway.

During recent years the road has been double-tracked and it is paralleled by telegraph and telephone wires. The present plan for the canal necessitates a relocation of a considerable portion of the line and the new roadbed is in course of construction. Several miles of it will run across an arm of Gatun Lake on trestles to avoid an excessive detour.

The general direction of the railroad is southwesterly, along the valley of the Chagres to San Pablo, the half-way point between the oceans. Here the river is spanned by the fine Barbacoas bridge, whose name is said to commemorate a barbecue held by Morgan's raiders at this

barbecue held by Morgan's raiders at this spot. It is an iron structure over 600 feet in length, laid upon stone piers, and cost more than \$500,000. In the dry sea-

son the Chagres is an insignificant stream, less than 200 feet wide at this place. With the advent of the rain, however, it rises suddenly and becomes a riotous

With the advent of the rain, however, it rises suddenly and becomes a riotous torrent, overflowing its natural banks and increasing one hundred fold in the volume of its discharge. Its greatest recorded rise was in 1878, when it flooded its valley and reached an elevation of 15 feet above the railroad tracks.

From San Pablo the road follows the left bank of the Chagres, seeking easy grade, as far as Bas Obispo, where it turns off at a sharp right angle. Near this point is Cerro Gigante, said to be the hill from which Balboa caught his first glimpse of the Pacific. At Paraiso the line reaches its highest elevation, being 263 feet above sea level. Thence to the terminus at La Boca, the port of Panama, it runs down grade.

One of the most serious difficulties that the Panama Railroad Company found in the way of its undertaking was that of securing labor. It was soon discovered that the Indians of the isthmus could not be relied upon, and, indeed, would not accept employment. It was determined to try Chinese coolles, and 800 of them were imported. They sickened at once and at

the close of the first week more than 100 large as among the Orientals, but the of them were on their backs. Their company failed to get a good day's labor from one of them. A considerable proporsult of deprivation of their accustomed opium. The drug was then supplied to them with markedly good effect, but agitathem with markedly good effect, but agita-tion in the States compelled the company to cease the supply. The Chinese coolles went to pieces immediately. Many of them committed suicide and some became insane. Two months after their arrival there was hardly one among their number fit to wield a pick or shovel and the miserable remnant of the original gang, numbering fewer than 200, was shipped to Jamaica.

to Jamaica The next venture of the company in this direction was not less deplorable. A large number of Irish laborers were brought in at much expense. They were brawny navvies, but they became prostrated as speedily as had the Chinese. The mortality among them was not so

tion of them were buried on the isthmus and the remainder were sent to New York, and the remainder were sent to New York, where it is said that the majority died from diseases contracted at Panama. Ultimately the railroad had to fall back, as we have done in the construction of the canal, on the indifferent labor afforded by the West Indian negroes.

The Panama Canal Company learned at the outset of its operations that the control of the railroad was a necessity to its success. It purchased six-sevenths of the stock for \$40,000,000 and eventually transferred it to the United States government.

Dirt Trains, Commission's Boarding House

in the Back pround

ferred it to the United States government

as a part of the canal property.

The engineering department of the Isthman Canal Commission operates about 200 miles of construction trackage, but the Panama Railroad Company acts as a clearing-house for its traffic. It re-

them empty, the trains as soon as they come on the company's tracks falling within its jurisdiction. These dirt trains, numbering from 700 to 800, run all day with the utmost regularity. They consti-tute the most important portion of the traffic and everything else is sidetracked to allow them to pass. The spoil handled in this way by the Panama Railroad last year brought its freight movement up to the enormous figure of 280,000,000 tons, with which no fifty miles of railroad in the world can compare. The contrast is more striking when it is considered that the movement of the Panama Railroad is restricted to nine hours daily, whereas an ordinary road operates during the en-tire twenty-four. Aside from the exca-vated material, a large quantity of commercial freight is bandled and all the supplies of the commission are carried. The passenger traffic is also extraordi-narily great. Four trains are run in each narily great. Four trains are run in each direction daily and their four or five coaches are always crowded with laborers and employes who get on and off at the 24 stations strung along the line. During the last fiscal, year 1,885,645 passengers were carried and the earnings from that source were upward of \$500,000.

The Panama Railroad is an extensive landowner. It holds title to the greater part of Colon and has large property interests at the Pacific end of the line. Last year it made more than 3,000 leases. It owns and operates the fleet of steam-

Last year it made more than 3,000 leases, it owns and operates the fleet of steamships that maintain a weekly service between New York and Colon. It also runs plants for printing, icemaking, cold storage, coffee roasting and breadmaking. These vast and various activities are under the immediate supervision and regulation of General Manager Slifer, who brought to the task a wide experience.

brought to the task a wide experience gained in the States. Track construction gained in the States. Track construction and maintenance are in the hands of Chief Engineer Budd, one of the several youngsters who are distinguishing themselves on the isthmus. His work is unusually difficult owing to the fact that improvement of the roadbed and tracks on only he carried on during about these can only be carried on during about three months of the year.

UNCLE SAM'S PROFESSIONAL PEACEMAKERS

ANY peculiar positions are there in the big government of the United States, but the most unique of all, perhaps, are those occupied by two of Uncle Sam's employes at Washington, D. C. These men—known allke to labor and capital all over the country—are designated by law as official peacemakers. It is their duty to preserve the peace, so to speak, between the railroads and that big, influential body of men, the train operators engaged in interstate traile.

The Peacemakers.

When these representatives of capital and labor are at loggerheads, the two men—Martin Augustus Knapp, of Syracuse, N. Y., chairman of the Interstate Commerce Commission, and Dr. Charles P. Nelll, United States Commissioner of Labor—step in and seek to pour oil on the troubled waters by averting a strike and effecting a compromise and

settlement.
The work of these two men has been remarkable in several particulars. In the first place it has been uniformly successful. This statement is more impressive that consideration that when it is taken into consideration that the work was looked upon in the light of a questionable experiment when first suggested. In the second place, their work has shown that, when approached in a friendly spirit, but without blas, prejudice or partisanship, both capital and labor are disposed to display fairness, patience, tolerance and a regard for the rights, each of the other.

How much of this success has been due to the personality of the mediators and how much to the good sense and fairness of the men and their employers may not accurately be determined. But that rauch has depended upon the mediators themselves is beyond dispute. And both men are qualified by education and

both men are qualified by education and temperament to act in this trying ca-

and money, have been narrowly averted in this country. When the industrial depression came, the railroad companies very generally threatened to reduce the of their employes; naturally, there an immediate protest.

The Situation Critical.

For a time it seemed that there would For a time it seemed that there would be much trouble, for the employes were determined to resist any reductions and the railroads declared that they could not afford to continue the old scale of wages. Very naturally the result was a deadlock. There seemed a determination to bring on strike.

deadlock. There seemed a determination to bring on strikes.

The public never knew how critical the situation was. But the government was in a position to know. It was able, by reason of the Erdman Act, to offer friendly and disinterested mediation, which, while being in the nature of an untried experiment, was accepted by the rall-roads and their men. The impending strikes did not occur and government mediation scored a triumph. Many other cases have been handled in this same successful manner.

And the two men who have charge of And the two men who have charge of this unique department of government are adepts at their strange profession. Reared on a farm until his seventeenth year, Martin Augustus Knapp learned from experience something of the standpoint of the man who labors with his hads. Having educated himself, won college degrees of A. M. and LL. D., gained admission to the bar of his native State and become possessed through his gained admission to the bar of his native state and become possessed through his industry and thrift of a competence, he has an appreciation of the feelings of the capitalistic class and an understanding of the legal rights of both capital and labor. Withal he has a keen sympathy for the workingman and a sense of justice that would prevent him countenancing an in-justice to any individual, whether rich or poor.

While still a young lawyer Mr. Knapp was made corporation counsel for the City of Syracuse, which office he held for six years. In 1891 he was appointed a member of the Interstate Commerce Com-mission by President Harrison. He was responded in 1897 by President Cleve-land and again by President Roosevelt in 1802.

A Social Scientist.

As United States Commissioner of Labor, Dr. Charles P. Neill has made an



Charles P. Meill U.S. Commissioner of Labor

excellent record. His work is one of the most delicate and trying combinations of duties in the government service. His training has been along lines that well fitted him for his post, however, and his personal temperament has been valuable in enabling him to consider questions coming before him in an official way without nartisanship or hiss. way without partisanship or blas. He is a social scientist of eminent at

talnments. For ten years he filled most acceptably the responsible post at the head of the department of economics at

acceptably the responsible post at the head of the department of economics at the Catholic University of America in the City of Washington. He was assistant recorder of the Anthracite Conline Strike Commission and was valuable in that connection as an authority and referee on statistical matters entering into the question. Dr. Neill was also recorder of the commission, of which Judge Gray was chairman, which settled the great coal strike. He has been prominent in many matters affecting differences and disputes between employers and the employed. But in nothing has be shown more strength and real ability than in his work as a mediator for the government to prevent labor disturbances in the railway world.

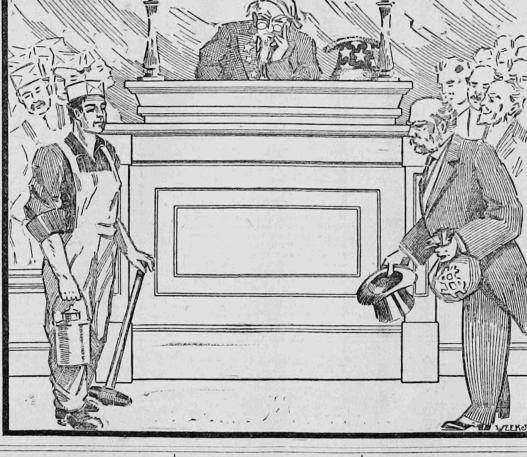
The settling of labor disputes by these government peacemakers is possible by reason of the Erdman Act, which became a law in 1898. Its provisions, however, remained practically dead until December, 1906. Since then it has been almost continually efficacious, but not in the way its author and Congress auticipated. The Erdman Act applies only to railroads engaged in interstate commerce, and their employes who are engaged in train operation. It provides a method for voluntary arbitration between the railroads and their trainmen, but, as an alternative, whenever a dispute occurs that threatens to interrupt interstate traffic, either party to the dispute may make an appeal to the chairman of the Interstate Commerce Commission and the Commissioner of Labor. They must then seek the other party to the dispute and try to get consent to mediation by the Commissioner of Labor. They must then seek the other party to the dispute and try to get consent to mediation by the government officers, who thereby become a board of mediation. If mediation should fail, it becomes the duty of the government board to urge that the dispute be referred to arbitration, as provided for in the act.

A Serious Case.

In at least two of the cases in which the government has been successful the country was threatened with interruption of traffic that would have caused in-calculable loss in wages and business

profits.

The first case is deserving of mention The first case is deserving of mention chiefly because it was the first. At that it was serious enough when the government was invited to step in. It was almost two years ago and the firemen of the Southern Pacific were involved. The strike occurred on the division between El Paso and New Orleans. Both sides seemed stubboro, and there was imminent likelihood that the trouble would spread to other divisions of the Southern Pacific.



and to other roads. Finally the railroad company sought the help of the government. Chairman Knapp, of the Interstate Commerce Commission and Labo state Commerce Commission, and Labor Commissioner Charles P. Neill as bound to do by law, tendered their services as mediators. A conference was held between the representatives of the two opposing factions through these two peacemakers of Uncle Sam's and a satisfactory settlement of the dispute was reached.

The account dismits that came before the

The second dispute that came before the The second dispute that came before the mediators involved every mile of railroad in the United States and Canada west of the Illinois Central and the Great Lakes. Feeling on both sides was at a white heat. The belligerent employes were convinced that their most cherished rights were being infringed upon and that they were being wholly ignored. The situation was tense with promise of darker days ahead.

ahead.

The railroads were likewise in an ugly mood. Irritated by negotiations which had already extended over a long period, they were quietly, but actively making preparations to conduct what gave promise of being one of the longest, most stubborn and far-reaching railroad fights the country had ever seen.

Their Last Resort.

The casus belli started in 1907, when the trainmen demanded better wages, more favorable working hours and gen-eral improvement in their working condieral improvement in their working condi-tions. The railronds were averse to granting the demand. While negotia-tions were being held the failure of either side to make any material concessions gradually brought about a feeling of hos-tility that threatened disaster not only to the parties to the controversy, but to great industrial enterprises and towns and cities on the lines of the railroads and dependent upon them for the neces-sities of life.

various organizations of trainmen, and the questions in dispute were taken up systematically. But the conference bore o fruit. The negotiations failed, after two whole months had been consumed in discussions. The situation became more strained than before. All the Western railroads had to face the fact that the would strike unless the roads made reas onable concessions. Such an act would mean that one hundred thousand men all over the West would go out at a me ment's notice, tying up all traffic for an indefinite length of time. The matter

seemed almost hopeless.

But not quite. Everything else having been tried, the raliroads asked for the services of the government's professional peacemakers. Commissioners Knapp and Neill responded immediately. A meeting was arranged for between the hostille leaders in Chicago. After a week of the most strenuous work, they submitted to both sides a form of agreement that was promptly accepted. But, even to this day, the exact terms of that agreement are not known. No one knows what each faction conceded. But both sides were evidently content, if not satisfied, for the labor organizations expressed their pleasure that a strike had been avoided, and several of the raliroad officials let Uncle Sam's peacemakers know that the matter had been well disposed of. been tried, the railroads asked for the

result in their own case

How They Work. December, 1906, the peacemakers

have exercised their powers of mediation exactly 16 times—and successfully, too, in every case. Each time a big strike was averted, though twice strikes had been actually declared.

When the bill was passed by Congress nediation was provided for, but it expected to be efficacious but seldom This feature, however, has proven the successful part of it thus far. The general public has heard but little regarding the actual working of the law. all that could be said was that the two peacemakers had been designated in any pencemakers had been designated in any certain case to act as mediators. Subsequently, after nearly every one had forgotten about it, would come the statement that the difficulty bad been settled amicably and satisfactorily. The details, obviously, cannot be made public, but an inkling, at least, is permitted of the manner in which the cases are handled.

For example, take the case in Chicago, when all the Western roads were in danger of a tie-up. Upon their arrival, the

when all the Western roads were in dan-ger of a tie-up. Upon their arrival, the two peacemakers found almost an armed camp, under truce, waiting them. On the one hand were the high officials of 48 powerful railroads; on the other, the 180 representatives of the employes of each of the roads. Both sides almost frankly considered mediation of doubtful utility. Everything else had been tried and prov-en a failure. Each side, in reality, was willing to concede a little more than it had yet admitted—if it could do so with honor.



Martin A Knapp Chairman Interstate Commerce Commission

point, the other was admitted and the

Make Haste Slowly.

The peacemakers listened patiently al ways. Sometimes they argued away fal-lactous claims; sometimes they agreed with facts advanced. But always they preserved open and unbiased minds and considered only the equities of the case. considered only the equities of the case. All day long, every day, and far into the night, they were at work. Gradually, bit by bit, the points of difference were whittled down and one point nearer a solution gained. But always, absolutely always, they preserved an inviolate secrecy, never letting one side know, by word, implication or geature, what the other side had said or agreed to.

One morning, when the cold gray dawn was beginning to stream in through the windows of the conference room, a basis of agreement had been formulated. It was then presented to the trainmen's representatives on the one side and the railroad's officials on the other. Both accepted it, without reservation, as equitable and

without reservation, as equitable and

In all the cases the two peacemakers

just.

In all the cases the two peacemakers have handled the proceedings have been much the same. Many labor leaders and capitalists believe that a way has at last been found by which industrial disputes may be settled without arbitration or strikes. Needless to say, the personality of the peacemakers themselves has much to do with the success of their endeavors. The mediation plan is, apparently, the common ground upon which both sides may meet honorably and freely.

The work of the mediators is not so much an obligation to determine what settlement ought to be made or what settlement they think ought to be made, but to find out what settlement can be made. Every employe is entitled to what he can get, and every employer has the right to secure the services of his employes as cheaply as he can. Hence it is not a question of what someone may think is the right or wrong of the controversy, but of accomplishing a settlement of the controversy, in terms to which both sides will agree.

The way in which mediation through the peacemakers seems to step in at just the right moment and pour oil on the troubled waters is interesting, indeed,

Chairman Knapp's Views.

considered mediation of doubtrul utility.

After this the professional peacemakers settled three cases satisfactorily by mediation. They were one on the Rio Grande and two on the Missouri.

Another case where the peacemakers settled the controversy with satisfaction to all and without a strike was that of the Chicago, Rock Island and Pacific. The bone of contention between the road and its telegraphers was the proper interpretation of the nine-bour law Though but one road was involved in this argument, every other road and every other employe in the West was watching the outcome and preparing to duplicate the

titled to and what he would really be willing to accept. So, I say, the Erdman Act contemplates, as we think and as we have tried to administer it, that the duty of the mediator is not to form a judgment of how the controversy ought to be settled, but to find out how it can be settled—to discover, so to speak, the weak point on each side; to see where the needful concession is likely to bring about a settlement, so that, at the proper time and after the negotiations have continued as far as useful, the mediators themselves may suggest terms of settlement which they have, by previous intimation, been advised both sides would be willing to accept. Happily that result has been reached in practically every instance.

ly every instance
"The essential merit of this plan is
that it brings about, or aids in bringing
about, a voluntary settlement. No record—no minutes of the meeting are kept.
The interviews are more formal formal. ord—no minutes of the meeting are kept.
The interviews are most formal, first with one side and then with the other, the mediators expecting that they will be received with frankness and told truthfully and sincerely the situation from the point of view of the party with whom they are then in conference. And so, in that way, they lead along until frictions which still exist between the parties, and which they themselves, perhaps, would be unable to allay, are by this method relieved and a settlement brought about. It has this advantage, this fundamental advantage—that it is a voluntary settlement. Neither party has been defeated. There is no judgment against anybody. There is no award which is contrary to anybody's sense of against anybody. There is no award which is contrary to anybody's sense of justice. And there is no ating of defeat. Each party can say, can say truthfully, while there was failure to get all they thought they ought to have, nevertheless they, upon consideration of the whole matter, believed that the settlement effected was in the best interests tlement effected was in the best interests of all concerned. More than that, it brings about the resumption of friendly brings about the resumption of friendly relations and the taking up at once of the work in which both parties are mutually engaged. That is the thing in which society is interested. That is the thing which the community demands—not how it shall be settled, but that it shall be terminated and that the business of the country go on uninterruptedly.

Promotes Good Feeling.

Promotes Good Feeling.

"I am very happy to say in this immediate connection that so far as I can observe, the results of the controversies with which I have been connected have been the restoration of even more friendly feelings than existed previous to the actual disturbance; that is to say, sensible men—and men on both sides are sensible men—and men on both sides are sensible men—and men on both sides are sensible men—and men or other failure to secure what they think they are entitled to, of course, leads to more or less unfriend. Incess or bitterness of spirit, unkindness, want of loyalty, want of interest in the work in which they are engaged, and that naturally and necessarily characterizes disagreements of the kind in question. It has happened, so far as I have had experience with the matter, that when a settlement has been effected after negotiations have progressed, and by such aid as the mediators were able to give by such advice as they felt justified in giving, all that bitteness and unkind feeling seems to have largely disappeared, with the result that the relations of the employer and the employe after the settlement are more friendly, more self-respectful more considerate of each other, than they were before the controversy arrose.

"I was quite impressed on one occasion."

"I was quite impressed on one occasion after a bitter contest, which continued through three days and practically three nights. When, at last, the adjustment was reached, the parties came together and there was almost a veritable love-feast in the room, which was very gratifying to me.

fying to me.
"I believe that in this plan there is the germ of a valuable idea which may be developed to very useful results. It is certainly an experiment, so to speak, along the line of composing the relations along the line of composing the relations so all important between the public serv-ice corporations and their thousands and hundreds of thousands of employes, which so far has justified its trial. The record, I think, is one to which we may look with considerable satisfaction.

There are as many dollars of government money deposited in national banks as there are people in the United States.